"Developing and Providing Coastal and Ocean Spatial Information"

Executive Summary

Spatial data in the coastal, ocean, and Great Lakes regions have always been a primary element in the mission of the National Ocean Service (NOS) and its predecessor organizations. Although these data have been historically used to support charting requirements, their significance has broadened to include coastal mapping for the coastal resource management community, coastal hazards assessment, and science of the coastal waters. We have moved away from the single paradigm of the nautical chart as the end product to developing databases and digital sources of coastal data that can be shared between NOS's offices and the external community. Terms such as scale, accuracy, maps, data quality, and data documentation take on a whole new meaning when we put them in the context of digital geospatial data.

The time is right for NOS to consider its mission in the geospatial data world. NOS's is the holder of some of the world's most valuable collections of coastal data for the nation. Data elements include shoreline, bathymetry, tidal and geodetic control, coastal water and sediment quality data, and maritime boundaries. NOS is in a unique position to package these data together with classification of coastal lands and assessments and to use geospatial data and geographic information systems (GIS) to address some of the difficult issues relating to coastal science.

The President of the United States has placed a high priority on the use of spatial data through the National Performance Review. Executive Order 12906, signed by the President in 1994, identified four major efforts that federal agencies should undertake to improve the efficiency of governmental operations. These four activities are: documentation of all data holdings, establishment of data availability to the public, development and utilization of data standards, and creation of fundamental (or foundational) "framework" data to support a range of activities. Subsequent to the issuance of the Executive Order, various national committees have looked into the issue of spatial data and have made recommendations for improvement.

We are proposing a strategy for NOS to address the issues identified by Executive Order 12906. This strategy is based upon five building blocks or objectives, which cover all the requirements in order to make the NOS compliant with the National Spatial Data Infrastructure. In addition to the five major building blocks, the group has identified a proposal for the first year's implementation plan.

The report includes a preliminary assessment of the resources available to NOS to carry out the MGIS mission. Based upon the information available in the NOS Annual Operating Plan, a initial cataloging of MGIS projects, and projects that are funded from external sources, it is estimated that NOS's investment in this activity is approximately $28 Million in FY-1999.

The report makes recommendations to the NOS Senior Management council to begin the implementation of the MGIS initiative. These recommendations relate to leadership, priorities, and policies related to MGIS for FY-1999. The Synergy Team is completing its final report to the SMC and it is anticipated that this will available by November 16, 1998.

Information regarding the activities is available on the Synergy Team's WWW Page: http://cammp.nos.noaa.gov/spatial/

Five NOS NSDI Building Blocks

The National Ocean Services Geospatial Data Synergy effort is comprised of five building blocks or components. These components, identified below contain the activities necessary to begin a comprehensive NOS Marine Geospatial Data "enterprise". This, enterprise will accomplish the following: 1.) Bring NOS in compliance with Executive Order #12906– Creating the National Spatial Date Infrastructure 2.) Begin to satisfy NOS's GIS data customer (internal and external), and 3.) It will position NOS to be a leader in the implementation of the NSDI and GIS in the marine, coastal, and Great Lakes environment.

Objective 1 – Catalog NOS's Geospatial assets (Data, Expertise, Hardware, Software) that contribute to the NOS Spatial Data Mission

Activity 1 – Identify NOS MGIS Holdings (Data Sets) and present availability
Activity 2 – Identify NOS MGIS Expertise
Activity 3 – Identify NOS MGIS Hardware and Software
Activity 4 – Consolidate Customer Demand

Objective 2 – Assess and evaluate selected assets to ensure that they are useful and available to NOS Spatial Data Customers

Activity 1 – Primary Layer: National Shoreline data sets
Activity 2 – Primary Layer: Coastal Hydrographic/bathymetric data
Activity 3 – Primary Layer: Coastal Cadastral/administrative boundary data
Activity 4 – Define criteria for inclusion
Activity 5 – Prioritize layers for action

Objective 3 – Develop a Structure/System to ensure that these Assets are delivered to the NOS Customers in a Timely manner and Useful (useable) Form

Activity 1 – Evaluate mechanisms to determine best way to transmit data (web & other)
Activity 2 – NOS Mapfinder
Activity 3 – NOAA Server
Activity 4 – NOAA Data Directory
Activity 5 – NOS METABASE
Activity 6 – NOS Intranet and link www pages at high level (like Envirofacts at EPA) or FTP service
Activity 7 – Develop a comprehensive NOS Data Access Policy

VII. Objective 4 – Design a mechanism to provide technical assistance and data education to the Coastal Geospatial Data Community (including NOS staff)

Activity 1 - NOS geospatial training and education sessions
Activity 2 - Regional workshops to Users
Activity 3 - Complete Vol 3 Shalowitz
Activity 4 - Write Coastal Mapping Handbook
Activity 5 – Key Reference: metadata
Activity 6 – Feedback links on web pages

Objective 5 – Establish a NOS coordination group to provide leadership and oversight to objectives 1-4 as the NOS Geospatial Data Infrastructure is developed

Activity 1 – Form NOS GS Council
Activity 2 – Re-assign (detail) key personnel to staff the Council
Activity 3 – Establish NOS Coastal Data working groups
e.g., Shoreline working group, Bathymetry
Activity 4 – Evaluate NOS's mission regarding outside groups – FGDC, NIMA, Baseline Committee, USGS, EPA, USCG, State and local govt., NGO's, NACo, CSO, NSGIC, OGIS,
Activity 5 – Evaluate NOS's mission with regard to rest of NOAA – NVDS, National Data Centers, etc.
Activity 6 – Determine the relationship to NOS Science Council, Business Council, and IT Council
Activity 7 – Develop NOS Marine GIS research agenda

Recommendation for Activities to be Included in the FY-1999 Marine GIS Implementation Plan

Activity Title	Quarter	Responsible (Lead)	Supporting Offices	Remarks
Create NOS Geospatial Data Team	1	SMC/ OCS	All except IO	Not in AOP
Designate "key" personnel and insert activity into individual performance plans	1	SMC/ OCS	OCS, CSC, NGS, SPO	NOT in AOP
Catalog NOS Spatial Data Assets	2	CIO/SPO	CS, NGS, CSC, COOPS	Not in AOP ESDIM
Establish Shoreline Data Working Group	2	NGS	OCS, CSC, ORR, SO, OCRM, COOPS	NOT in AOP ESDIM
Begin NOS Geospatial Training	2	CSC	OCS, NGS, SPO, COOPS	In AOP
Sponsor NOS Geospatial Data Seminar Series	2	OCS	All NOS	Not in AOP
Develop Plan to Support USGS Mapping Program	2	SPO	NGS, OCS, CSC	Not in AOP
Evaluate Existing NOS/NOAA Data Delivery Systems	2	SPO	NGS, OCS, COOPS, CSC, CIO	Not in AOP
Prototype "unified" NOS Coastdata Delivery System	3	SPO	NGS, OCS, COOPS, CSC, SO	Not in AOP
Evaluate NOS's Geospatial Data Role vis a vis NOAA, and outside	3	SPO/ MB	All NOS	Not in AOP
Complete Vol III Shalowitz	3	CSC	OCS, NGS, COOPS, OCRM	In AOP but not in the MGIS
Develop NOS Data Policy	3	MB	All NOS	Not in AOP
Establish Bathymetric Working Group	3	OCS	CSC, SPO, COOPS, NGDC	Not in AOP
Develop a NOS Geospatial Data Science Plan	4	SO	NGS, OCS, CSC	Not in AOP

NOS Funding Strategy for Marine GIS

At the present time (FY-1999) NOS is investing approximately $28M in activities related to Marine GIS:

A .Line Office Funding – from AOP – about $25M
B. Direct Funding from Other Sources ESDIM, FGDC, HPCC and similar activities – $1.5M
C. Preliminary inventory of MGIS related activities other than A or B – 72 "MGIS Projects"

Possible additional sources of Funding for FY-2000 and beyond

Year 2000 Community/Federal Information Partnership $67 M total (NOAA $8M)
Other reimbursable funding, e.g USGS, COE, MMS, EPA, NIMA
Directing CZMA Grants:
NOAA ADF - $250K
ESDIM Funding – $750K
FGDC Grants – $30-50K each
Sea Grant – $100K-$500K
NSF Digital Government opportunities – $50K+
NOAA NVDS – $10M mostly for NOAA Data Centers
NOAA HPCC - $200K
NOAA Data Rescue – $200K
SBIR – $50-$250K
Ocean Partnership Program $200K
Tin Cup – USGS, Census, MMS, etc.

Recommendations to NOS Senior Management Council

1. Recommend Management oversight structure
   - _ Recommend the Office of the Coast Survey be the Lead Office in NOS for 1st year.
   - _ Include/evaluate MGIS activities in the AOP
   - _ Include MGIS activities in Senior Managers' and Division Chiefs' Performance Plans

2. Set Priorities for NOS Geospatial Data
   - _ Shoreline
   - _ Bathymetry/hydrography
   - _ Marine Cadastral (maritime boundary)

3. Issue NOS policy guidelines regarding spatial data
   - _ Compliance with NOAA, OMB, contract/grant, and Executive Order directives